

Stripping-voltammetric determination of transition metals using electrodes modified by azacrown compounds

Shaidarova L., Ulakhovich N., Fedorova I., Galyametdinov Y.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Voltammetric properties of macrocyclic complexes of transition metals are studied by using a carbon-paste electrode modified by diaza-18-crown-6, Cyclam, and their derivatives. A selective stripping-voltammetric procedure is proposed for determining Ni(II) and Co(II) with a carbon-paste electrode modified by Cyclam and its derivatives. To improve the sensitivity and selectivity of analysis, it is suggested that metal ions be preconcentrated at the surface of the modified electrode by using a 0.1 M NaCl solution as a supporting electrolyte with the following recording of voltammograms in the range from -0.3 to 0.8 V in a 0.1 M KOH solution. The detection limits for Ni(II) and Co(II) are 4×10^{-8} and 1.2×10^{-7} M, respectively. © 1996 MAEe Cyrillic signK Hayka/Interperiodica Publishing.
